In order to fulfill these requirements, in one of the preferred embodiments of the present invention, the coding gene of the heterologous polypeptide (SEQ. ID: 2) in question is translationally fused to the coding sequence of the AtGRP17 gene (SEQ ID: 1), while said fusion is controlled by at least part of the promoter region (SEQ ID: 3) of the AtGRP17, this promoter being able to direct the gene fusion expression in the anther's tapetum. In order to prepare said gene construction, the following steps were taken:

For the amplification of the promoter region of the AtGRP17 and its ORF specific oligonucleotides were used: RR1f (5'ATA AAG CTT TTT CTC TGT TTT TGT CCG TGG AAC) (SEQ. ID: 4) and RR2r (5'ATA CCA TGG CAC GTG ATT CGG TGG AAG TCC TGC C) (SEQ. ID: 5). The plasmid pC027 (described by Olivera et al "Inflorescence-specific genes from Arabidopsis thaliana encoding glycine-rich proteins". Plant J. 3: 495-507, 1993; Franco et al.,"Distal regulatory regions restrict the expression of cis-linked gene to the tapetal cells". FEBS Letters 25965: 1-6, 2002) was used as target for the amplification, by PCR, of the promoter region and of the AtGRP17 ORF. By using the oligonucleotides RR1f and RR2r the product of amplification ProAtGRP67 (Figure 6) was obtained and, after cleavage with the enzymes *Xba*I and *Nco*I, was linked to plasmid pCambia cleaved with the same enzymes (Figure 5), thus originating the construction pProAtGRP17_GUSGFP (Figure 7).